

REMARKS

The Examiner is thanked for the due consideration given the application. The specification has been amended to improve the headings.

Claims 1 and 3-21 are pending in the application. Acknowledgement of the allowability of claims 9 and 18 is noted with appreciation. Claim 2 has been cancelled and its subject matter has been generally incorporated into claim 1. Support for the amendment to claim 3 can be found in the specification at page 5, lines 26-30. The claims have been further amended to improve their language in a non-narrowing fashion.

No new matter is believed to be added to the application by this amendment.

Rejection Under 35 USC §112, Second Paragraph

Claim 5 has been rejected under 35 USC §112, second paragraph, as being indefinite. This rejection is respectfully traversed.

The Official Action asserts that claim 5 fails to clearly set forth its dependence. However, claim 5 has been amended to clearly set forth its dependence upon claim 1. Claim 5 is thus clear, definite and has full antecedent basis.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Rejections Under 35 USC §102(b)

Claims 1, 3-7 and 10-16 have been rejected under 35 USC §102(b) as being anticipated by WIEST (U.S. Patent 4,156,652). Claims 1, 5-7 and 10-16 have been rejected under 35 USC §102(b) as being anticipated by LAST (U.S. Patent 4,141,830). These rejections are respectfully traversed.

Claim 2 has been cancelled, and its subject matter has been incorporated into claim 1. Claim 2 was free of these rejections, thus rendering claim 1 free of these rejections. Claims depending upon claim 1 fail to be anticipated by WIEST or LAST for at least the above reason.

These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

Rejections Under 35 USC §103(a)

Claims 2, 8 and 17 have been rejected under 35 USC §103(a) as being unpatentable over WIEST in view of KORIN (U.S. Patent 5,935,431). Claims 19-21 have been rejected under 35 USC §103(a) as being unpatentable over WIEST, as applied to claim 1, in view of MANCIL (U.S. Patent 5,843,309). These rejections are respectfully traversed.

The present invention pertains to a method for treating liquids that can use, by way of example, the apparatus illustrated in Figure 3 of the application, which is reproduced below.

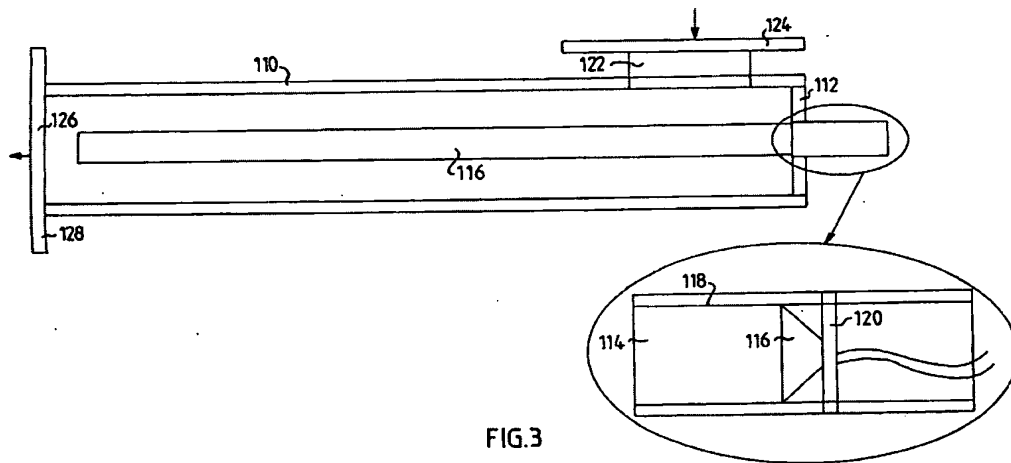


FIG.3

Figure 3 shows a UV light source 116 that directly irradiates a catalyst, which can be a titanium oxide film coating the inside of a pipe 110. Claim 1 of the present invention recites "irradiating the flow of liquid containing the in-mixed ozone in order to break down the ozone in the liquid for producing free radicals; and

exposing the fluid to at least one catalyst at the same time as the ozone is broken down for increasing the amount of free radicals."

WIEST pertains to an apparatus for sterilizing fluids with UV radiation and ozone. WIEST fails to disclose "exposing the fluid to at least one catalyst at the same time as the ozone is broken down for increasing the amount of free radicals," such as is set forth in claim 1 of the present invention. The Official Action acknowledges this failure of WIEST at page 8,

lines 15-17. The Official Action turns to KORIN to address the deficiencies of WIEST.

The Official Action refers to column 5, lines 445-50 of KORIN which lists materials for a filtration member 4, including "reduction catalysts." Filtration member 4 is depicted in Figure 1 of KORIN, which is reproduced below.

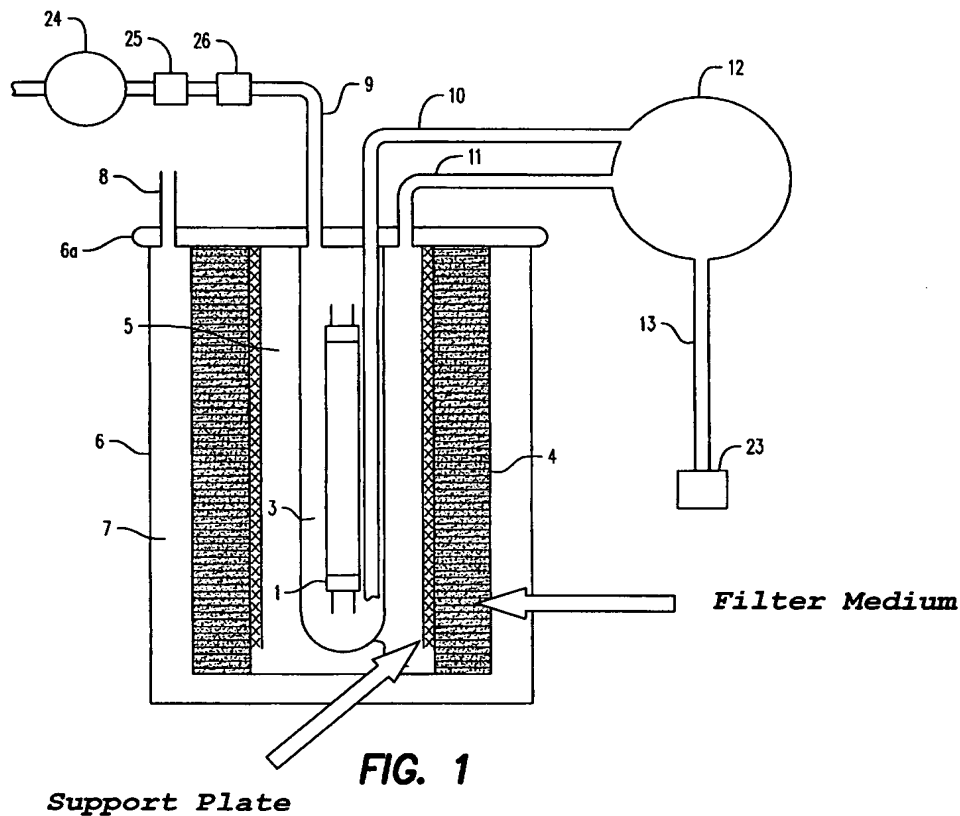


Figure 1 of KORIN shows a structure that cannot be used to practice the present invention. Column 5, lines 45-50 recites a range of materials for the filtration member 4, including "activated carbon, activated carbon block, adsorption resins, ion exchange resins, zeolite, reduction catalysts, paper, polymers,

clay, ceramics, metals, nylon, wood pulp, cellulose, cotton, fibers, and any other material capable of separating particulate, organics or inorganics from a feed stream."

Further, KORIN at column 5, lines 50-54 recites: "Filtration member 4 is preferably in the form of one of the following: string wound filter, fiber composite molded filter, pleated filter, hollow fiber membrane, spiral wound membrane, plate and frame membrane and any other conventional form desired by the user."

The filtration member 4 of KORIN is thus a conventional filter that must be support by a support plate (shown but having no reference numeral) that supports the filter to prevent collapse or dissipation of the filter material due to the outward to inward flow of liquid through the filter member 4. This support plate would function to block the "reduction catalysts" from being exposed to UV radiation.

In contrast, the present invention places catalysts so that they may be irradiated by the UV radiation, where the function of catalysts is to increase the amount of free radicals, thereby increasing the treatment effect of the device.

On the other hand, the filter of KORIN is just to filter organic or inorganic materials. When removing inorganic materials such as heavy metals or sulfites, this reduction catalyst is used. In this context, it is to be pointed out that the function of a reduction catalyst is to remove unwanted

materials, and no UV radiation is used for this process, whereas in the present invention catalysts are used to increase radicals under the influence of UV radiation, not to decrease or remove anything.

MANCIL fails to address the deficiencies of WIEST in anticipating or rendering unpatentable claim 1.

As a result, one of ordinary skill in the art would not produce claim 1 of the present invention from a knowledge of the teachings of WIEST and KORIN or WIEST and MANCIL. A *prima facie* case of unpatentability has thus not been made. Claims depending upon claim 1 are patentable for at least the above reasons.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Conclusion

The Examiner is thanked for considering the Information Disclosure Statement filed April 11, 2005 and for making an initialed PTO-1449 Form of record in the application.

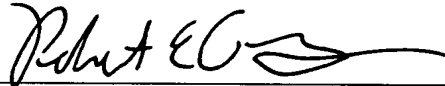
Prior art of record but not utilized is believed to be non-pertinent to the instant claims.

It is believed that the rejections have been overcome, obviated or rendered moot, and that no issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



Robert E. Goozner, Reg. No. 42,593
745 South 23rd Street
Arlington, VA 22202
Telephone (703) 521-2297
Telefax (703) 685-0573
(703) 979-4709

REG/lk